

**Clean version of claims listing on October 24, 2008, after cancelation of word "electrostatic" in claim 50(new), and last lines in claims 52(new) and 53(new) .**

**1 (twice amended)-** Telescope optical device comprising a mirror and a device actuating the mirror,

characterized in that the mirror and the actuating device are free concave membranes without contact between them, or with other device, and tied by their central parts to the telescope.

**14-15 (canceled), 18-19 (canceled), 44 (canceled), 45-49 (canceled)**

**50 (amended)** Telescope optical device according to claim 1,

characterized in that there are two levels of control to give at the free membranous mirror a perfect shape :

In a first level, an approximate shape is given to the free actuating membrane by interaction of a magnetic field tied to the telescope with magnetic fields generated by actuating membrane;

in a second level, a perfect form is given to the free membranous mirror by interaction of the free actuating membrane with the free membranous mirror.

**51 (new)** Telescope optical device according to claim 1,

characterized in that by use of the capacitive coupling between the conductive layer of the mirror and specific electrodes of the actuating membrane, the spread electronic integrated in the actuating membrane acts for the self-stabilisation of the shape of the system mirror--actuating membrane.

**52 (amended)** Optical device according to claim 1,

characterized in that, for its folding, the concave membranous mirror is deformed by the formation of concentric circular ondulations obtained by a succession of centered distorsions alternately concave and convex, altering the pure concave surface of the membranous mirror in a circular surface comprising a series of circular centered waves whose the vertical crest to crest distance is so small as one wishes, in view of the number of waves so great as one wishes.

**53 (amended)** Optical device according to claim 1,

characterized in that, for its folding, the concave membranous actuating membrane is deformed by the formation of concentric circular ondulations obtained by a succession of centered distorsions alternately concave and convex, altering the pure concave surface of the actuating membrane in a circular surface comprising a series of circular centered waves whose the vertical crest to crest distance is so small as one wishes, in view of the number of waves so great as one wishes.

**F - New figure 6** - Now, to answer to the legitimate worry of the examiner about the figure 6, a single narrow line, it is simple to consider a membranous mirror of (moderate) diameter 10 meters and thickness 10 microns.

It is easy to have crest to crest thickness of 1 mm, without permanent residual distortion after unfolding in space.

At the scale of 10 cm pour 10 m, it is 1/100, the crest to crest thickness on the figure will be 1/100 mm.

For the actuating membrane of thickness of, for example, 100 microns, the thickness of the figure is 1/10 mm, in the order of the narrowest line made by standard printer or by ball-point pen.

That would be exactly the same thing with a 100 meters diameter membranous mirror.

So, the narrow line is the best representative figure.

(My patent 6,676,262 B1 is always a good reading...)

**G - For the fun** - If you consider a pure geometrical concave surface, without thickness but with a suitable strength modulus of course, the crest to crest will be at the limite really zero because the waves number can be infinite.

The true length will be always the length of the diametral arc of the concave surface, however can be the deep or arrow of the concave surface.

The real surface area of the transformed pure geometrical concave surface does not will be the classical projection of this concave surface on a plan, but well the surface area of this pure geometrical concave surface itself.

This topological entertainment is for the fun, of course! (You deserve, after the reading of my paper...)

**Respectfully Yours**

**Goulven Vernois**